Use Caution When Opening Electrical Panels

Always De-Energize Electrical Equipment Before Opening Panels

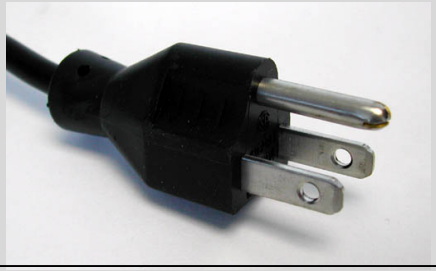
Much of the lab equipment used by MSD researchers operates at potentially dangerous voltage and current (>50 volts, >5 mA). In many cases, removing equipment enclosure panels will expose unprotected, high voltage conductors and pose a risk of shock, electrocution or arc-flash explosion. Prior to removing such panels, it is very important to completely de-energize the equipment. Simply turning the equipment off via a switch on the tool is not always safe and cannot be relied upon to protect you.

Frequently the equipment can be de-energized simply by unplugging it, a task that can be performed by anyone who has completed general electrical safety training at LBNL. As long as you can see the plug at all times and be sure that is not plugged back in, most tools will be safe to work on.

Tools that are "hard wired" to the electrical supply, such as through a power disconnect, must be locked out and tagged out (LOTO) by a specially trained and qualified individual—very few researchers are qualified to perform LOTO. If you need to have such equipment de-energized, at LBNL you can contact Phil Peabody, ppeabody@lbl.gov or x6058, or an LBNL Facilities electrician. Paul Johnson x5810 or Carleton Falzone x7679 (Foundry) can facilitate work by the electricians at LBNL. On the UC Berkeley Campus contact the Office of Environmental Health and Safety for Guidance, 642-3073.

- The lack of a "High Voltage" label on a piece of equipment does not necessarily mean it is safe to remove a panel cover on the tool while it is energized. Older tools often lack this warning.
- Some equipment may contain stored electrical energy, such as large capacitors, making it unsafe to expose even after de-energizing—these capacitors must be shorted by a qualified person before the equipment is declared safe to work on.
- Finally, some equipment can be safely opened up when energized, if only low voltage conductors are exposed in the process, like a typical computer case. If you think this is the case for a piece of lab equipment at LBNL, contact Phil Peabody, x6058, to confirm it. On the UC Campus contact the Office of Environmental Health and Safety for assistance, 642-3073.

Special LOTO training is required to perform disconnects in electrical panels.



Plug – can be unplugged by anyone who has completed EHS0260.